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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,881	09/19/2003	Kurt Konolige	SR11P023C1D1	6775
22434	7590	05/26/2006	EXAMINER	
BEYER WEAVER & THOMAS LLP			BALI, VIKKRAM	
P.O. BOX 70250			ART UNIT	
OAKLAND, CA 94612-0250			PAPER NUMBER	
			2624	

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,881

Applicant(s)

KONOLIGE, KURT

Examiner

Vikram Bali

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49-68 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 49-68 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/23/2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 49-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al (US 5179441).

With respect to claim 49, Anderson discloses first and second feature image, (see figure 1, 12 and 16) one or more buffers capable of storing part of each feature images, (figure 1, numerical 12 and 16 cameras has the buffer for storing the images) a window summation (see figure 4, 82) and a processor capable of computing a correlation and storing the results of the correlation in the window summation buffer, (see figure 4, 78 and 82), as claimed. However, he fails to explicitly disclose the line from each feature image, as claimed. But, in col. 7, lines 41-45, it states the correlation can be conducted in 1-D as the scan line, and also, in col. 17, lines 49-55 it states that the windows can be adjusted to come up with any size (as claimed in claim 54 the window being less than 3Y and more than Y) as claimed. Therefore, it would have been obvious to ordinary skilled in the art at the time of invention to simply use the suggestion of the Anderson to come up with a correlation of the two images line by line.

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With respect to claim 50, he further discloses computing a new line in a disparity image using the information stored in the window summation buffer, (see figure 4, 82 and 84) as claimed.

With respect to claim 51, he further discloses computing two minimum values from the information stored in the window summation buffer to perform a left/right consistency check, (see col. 17, lines 5-15) as claimed.

With respect to claim 52 and 53 computing fractional pixel disparities and a confidence value is well known in the art and also as admitted by the applicant in the specification col. [0109] and [0110]. Therefore, it would have been obvious to one ordinary skilled in the art at the time of invention to simply use the conventional methods as describe by the applicant in the specification to simply compute the fractional pixel disparities and a confidence value.

Claims 54-68 are rejected for the same reasons as set forth in the rejection of claims 49-53, because claims 54-68 are claiming similar subject matter as claimed in claims 49-53.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

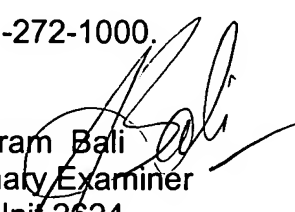
Computational Stereo, by Barnard et al., computing surveys, vol. 14, no. 4, 12/1982

A parallel stereo algorithm that produces dense depth maps and preserves image feature, by Fua, machine vision and applications (1993) 6:35-45.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikkram Bali whose telephone number is 571.272.7415. The examiner can normally be reached on 7:00 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 571.272.7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Vikkram Bali
Primary Examiner
Art Unit 2624

vb
May 23, 2006